

NOTE: This material prepared by Colonel Worthman at Mr. Friedman's request - 11 Jan 65 - it was used by Mr. Friedman in preparing a paper for Mr. Vance on 13 Jan.

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MEMORANDUM: Use of Satellite Coverage Under Changed Circumstances

New Paragraph 7. Renumber present 7.

7. Use of Satellite Coverage Under Changed Circumstances.

a. **Change in U. S. Policy to Reduce Tensions.** It is conceivable that under certain circumstances, the United States might wish to take positive steps leading to a reduction in the probability of a confrontation with Cuba over the overflight issue. Such circumstances might include:

(1) A new round of efforts to reduce East-West tensions in which both sides take concrete steps to eliminate areas of friction.

(2) A fundamental change in U. S. policy toward Cuba designed to bring Cuba back into the inter-American community.

(3) A positive U. S. response to Cuban overtures to reduce friction with her American neighbors such as a marked curtailment of subversive activities in Latin America.

(4) An attempt by the U. S. to dampen-down certain potential crisis areas because of increased tension in other areas (such as Vietnam or the Congo).

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b. Alternative Programs. If any of the above circumstances apply, the U.S. could consider several actions to achieve the desired results:

(1) Reducing the stated requirement for interpretable photography from 90% every four weeks to a lower figure, or extending the time period of coverage. This would increase the risk of offensive missiles escaping detection, but the actual increase in risk may be difficult to measure and it may be relatively small. Moreover, we do not have 100% assurance of detection now. Such a reduction in the requirement would open up alternative areas of collection, such as main reliance on KH-4 photography [REDACTED] as required, with U-2 drones held on a standby basis only. The charts at page _____ above indicate the options available utilizing currently operational systems.

(2) Providing essentially the same coverage as at present but re-activating the KH-6 system, whose resolution (5 feet) is adequate to identify mobile missile deployments. The capabilities are shown on this chart:

KH-6 Coverage (Cloud-Free) and Costs

90% Coverage Every 30 Days	90% Coverage Every 45 Days	90% Coverage Every 60 Days	75% Coverage Every 60 Days
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(15)* [REDACTED]

* Flight Units

* [REDACTED]

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c. Discussion of Alternatives. Because of the inadequate resolution of the KH-4 Del [REDACTED] increasing the frequency of flights of these systems provides only marginal gains in utilizable coverage for the costs involved.

The KH-6 system, on the other hand, offers the prospect of providing the required coverage (84% of Cuba, cloud-free, monthly) with utilizable photography at a cost which is reasonable if other benefits are considered. An orbit can be selected which will cover from 24° north latitude to 24° south latitude. In addition to providing full coverage of Cuba, such crisis areas as the Congo, Indonesia, Malaysia, Vietnam, Laos, and Southern China (in the area of Chinese air-buildups on the South Vietnamese Border) can be covered with 5 foot resolution photography. This additional coverage alone would go a long way toward justifying the [REDACTED] dollars involved. (If 84% Cuban coverage monthly (cloud-free) were acceptable, the KH-6 system could provide even greater coverage of other world areas -- from 34° north latitude to 34° south latitude.)

If present KH-4 [REDACTED] photography is reduced to the extent permissible by using the KH-6, costs attributable to the KH-6 will

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be reduced commensurately. Interesting trade-offs can be contemplated if Cuban coverage is varied to provide greater China coverage. Similarly, costs for increased coverage of China which may be necessary in the future can be absorbed by the new system.

d. Political Scenario. The manner in which the U. S. would go about terminating U-2 flights over Cuba would depend in large measure on the circumstances pertaining at the time the action was contemplated.

In those circumstances in which the U. S. took the initiative in reducing tensions such as those in paragraphs 7. a(1), (2), and (4), above, it would be necessary to satisfy two somewhat conflicting objectives. On the one hand, the U. S. would hope to establish that in ceasing the U-2 overflights, we were in fact making a meaningful gesture toward reducing tensions. At the same time the American people and the Congress would have to be assured that the U. S. was not taking undue security risks vis-a-vis Cuba. This could be managed by establishing briefings of the Congressional leadership on the adequacy of the substitute measures. Selected Allies could also be briefed, perhaps as a follow-up to the earlier McCone briefings. At the same time, we would take the public posture that

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the U. S. has adequate new techniques to assure itself against the re-introduction of missiles, that cessation of the U-2 flights will assist in reducing tensions and that a quid-pro-quo involving Communist concessions are a part of the proposal. It would be essential, of course, to avoid any impression that the U. S. was retreating under duress.

e. Recommendations. The following recommendations are made in light of the above considerations:

- (1) Ready the KH-6 system for utilization in the satellite program. (Approximately 6 months is required)
- (2) Procure additional KH-6 sets to enable the system to run on a 15 launch sets per year basis. (First year cost [REDACTED] Present on the shelf capability would be exhausted about the time new production comes in.
- (3) Begin as soon as possible KH-6 launches on a random basis to gain operational experience with the system.
- (4) Prepare to phase out U-2 operations on a gradual basis as the KH-6 is phased in if any of the circumstances in 7. a. above dictates such action.

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Page 7

(ii) Cloud-free KH-4 photography of about 75 per cent of Cuba could be obtained monthly at an additional expense of [REDACTED] annually by a modification of existing KH-4 practices. ** Other options are shown in the following table:

KH-4 COVERAGE FROM WESTERN TEST RANGE VS ADDED COST PER YEAR

90% Coverage Every 30 Days 90% Coverage Every 45 Days 90% Coverage Every 60 Days 75% Coverage Every 30 Days 75% Coverage Every 60 Days

100% cloud-free photography (36)

At least 70% cloud-free photography (29)

[REDACTED]

1/ Satellite Systems.

Page 8

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one launching and 75% from
of 50 percent of Cuba from two launchings per month. (Other world
areas, including much of China, Southeast Asia, the Congo, Indonesia,
and the [REDACTED] would also be covered.)

Options are shown in the following table:

[REDACTED] COVERAGE FROM EASTERN ² TEST RANGE VS ADDED COST PER YEAR				
	87% Coverage Every 30 Days	87% Coverage Every 45 Days	87% Coverage Every 60 Days	75% Coverage Every 60 Days
100% cloud-free photography	[REDACTED]			

2/ For flights westbound from Western Test Range, double the costs
in each case.

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